



MEMORANDUM

TO: Committee on Science, Space, and Technology Members and Staff
FROM: Committee on Science, Space, and Technology Staff
RE: Memo for March 29, 2023, Full Committee Markup

Markup of:

- **H.R. 676, “Coastal Communities Ocean Acidification Act of 2023”**
- **H.R. 1482, “NOAA Weather Radio Modernization Act of 2023”**
- **H.R. 1496, “National Weather Service Communications Improvement Act”**
- **H.R. 1713, “DOE and USDA Interagency Research Act”**
- **H.R. 1715, “Advanced Weather Model Computing Development Act”**
- **H.R. 1734, “TRANQ Research Act”**
- **H.R. 1735, “Mathematical and Statistical Modeling Education Act”**

Please remember to file any amendments by 10:00 am, Tuesday, March 28, 2023

H.R. 676, “Coastal Communities Ocean Acidification Act of 2023”

H.R. 676 would increase the involvement of Indian Tribes with ongoing NOAA ocean acidification activities. This bill amends the Federal Ocean Acidification Research and Monitoring Act of 2009 to require the Secretary of Commerce, acting through the Administrator of the National Oceanic and Atmospheric Administration, to collaborate with State and local governments and Indian Tribes on vulnerability assessments related to ocean acidification, research planning, and similar activities.

H.R. 676 was introduced on January 31, 2023, by Representative Pingree (D-ME) and is cosponsored by Waltz (R-FL), Golden (D-ME), Gonzalez-Colon (R-PR), Carson (D-IN), Bonamici (D-OR), Tokuda (D-HI), Huffman (D-CA), Kilmer (D-WA), Scanlon (D-PA), Blunt Rochester (D-DE), Panetta (D-CA), Peltola (D-AK), Thompson (D-CA), McCollum (D-MN), Schiff (D-CA), and Lieu (D-CA).

Section-by-Section

Section 1. Short title.

Section 2. Definitions.

Section 3. Improvement of Collaboration on Ocean Acidification.

This section makes a number of minor tweaks to existing code that ensures Indian Tribes are included in coordination, research, and input on ocean acidification and coastal acidification activities. Specifically, this section designates 2 seats on the Interagency Working Group on Ocean Acidification for representatives from Indian Tribes, Tribal organizations, or Tribal consortia. This section also ensures there is an ongoing mechanism to engage affected groups and communities in order to provide input on research, data, and monitoring that is necessary to support on-the-ground management and decision making related to ocean acidification.

Section 4. Technical Corrections.

Contact Daniel Dziadon on the Majority Staff or Kristi Parrott on the Minority Staff with any questions about H.R. 676

H.R. 1482, “NOAA Weather Radio Modernization Act of 2023”

H.R. 1482 would require upgrades to existing systems to expand the coverage of NOAA Weather Radio (NWR) and ensure reliability as well as increase reach to rural and underserved communities. It directs the NOAA Administrator to ensure existing NWR capabilities remain relevant and expands coverage by upgrading telecommunication infrastructure, accelerating software upgrades, accessibility to stakeholders, and developing backup capabilities. The bill also requires the NOAA Administrator to conduct an assessment that provides recommendations on improving access to NWR. Nearly identical legislation, H.R. 5324, passed the House with bipartisan support last Congress.

H.R. 1482 was introduced on March 9, 2023, by Representative Bice (R-OK) with Representatives Sherrill (D-NJ), Miller (R-OH), Bonamici (D-OR), and Kilmer (D-WA).

Section-by-Section

Section 1. Short Title.

Section 2. Definitions.

Section 3. Findings.

Section 4. Upgrading Existing Systems.

This section directs the NOAA Administrator to expand coverage of the existing NWR and ensure its reliability through system support, maintenance, and acquisition of additional transmitters to reach rural and underserved communities.

Section 5. Modernization Initiative.

This section directs the NOAA Administrator to undertake activities in parallel to those in Section 4 to modernized NWR capabilities and ensure coverage remains valuable to the public, including upgrading the telecommunications infrastructure, accelerating software upgrades, ensuring accessibility of the data to stakeholders, developing backup capabilities, and more. Additionally, the Administrator is required to conduct an assessment that would provide recommendations on improving access to NWR, with input from relevant stakeholders, and those recommendations prioritized in carrying out activities to maximize accessibility.

Contact Daniel Dziadon on the Majority Staff or Kristi Parrott on the Minority Staff with any questions about H.R. 1482.

H.R. 1496, “National Weather Service Communications Improvement Act”

H.R. 1496 would direct the National Weather Service (NWS) to improve its current legacy instant messaging service by requiring the implementation of a commercial off-the-shelf communications system. The bill authorizes \$3,000,000 for each of FY2024 through FY2027 from amounts appropriated to NWS to carry out the activities. An identical bill, H.R. 7361, passed the House with bipartisan support last Congress.

H.R. 1496 was introduced on March 9, 2023, by Representative Feenstra (D-IA) with Representatives Carbajal (D-CA), Miller-Meeks (R-IA), Bonamici (D-OR), Miller (R-OH), Hinson (R-IA), Gonzalez-Colon (R-PR), Crawford (R-AR), Jackson (D-NC), LaMalfa (R-CA), Sorensen (D-IL), Radewagen (R-AS), Foushee (D-NC).

Section-by-Section

Section 1. Short title.

Section 2. National Weather Service communication.

This section amends Title IV of the Weather Research and Forecasting Innovation Act of 2017 by adding a new section that directs the National Weather Service to upgrade its current legacy instant message service, commonly known as NWSChat, to a cloud-based commercial off-the-shelf communications system. This section also authorizes \$3,000,000 for each of FY2024 through FY2027 from amounts appropriated to NWS to carry out this Act.

Contact Daniel Dziadon on the Majority Staff or Kristi Parrott on the Minority Staff with any questions about H.R. 1496.

H.R. 1713, the “DOE and USDA Interagency Research Act”

H.R. 1713, the *DOE and USDA Interagency Research Act*, directs the U.S. Department of Energy (DOE) and the U.S. Department of Agriculture (USDA) to carry out cross-cutting and collaborative research and development activities focused on the joint advancement of DOE and USDA mission requirements and priorities, through a memorandum of understanding or other appropriate interagency agreement. It also directs the Secretaries to submit a report to Congress on these activities.

H.R. 1713 was introduced on March 22, 2023, by Chairman Lucas (R-OK), with Ranking Member Logfren (D-CA) as the original cosponsor.

Section-by-Section

Section 1. Short Title.

Section 2. Department of Energy and Department of Agriculture Joint Research and Development Activities.

Directs the Secretary of Energy and the Secretary of Agriculture to carry out cross-cutting and collaborative research and development activities focused on the joint advancement of DOE and USDA mission requirements and priorities, through a memorandum of understanding or other appropriate interagency agreement. Directs the Secretaries to, in carrying out these activities, conduct collaborative research over a range of focus areas and applications, develop methods to accommodate large data sets on agricultural, environmental, supply chain, and economic information, and support research infrastructure and workforce development. Requires the Secretaries to submit to the Committee on Science, Space, and Technology and the Committee on Agriculture of the House of Representatives, and the Committee on Energy and Natural Resources and the Committee on Agriculture, Nutrition, and Forestry of the Senate, a report detailing coordination activities carried out under this section, collaborative research achievements, and potential opportunities to expand technical capabilities, among other areas. Requires that the activities authorized under this section be applied in a manner consistent with the research security provisions under subtitle D of title VI of the Research and Development, Competition, and Innovation Act (enacted as division B of the CHIPS Act of 2022 (Public Law 117–167; 42 U.S.C. 19231 et seq.)).

Contact Hillary O’Brien on the Majority staff or Sangina Wright on the Minority staff with any questions about H.R. 1713.

H.R. 1715, the “Advanced Weather Model Computing Development Act”

H.R. 1715, the *Advanced Weather Model Computing Development Act*, directs the U.S. Department of Energy (DOE) and the National Oceanic and Atmospheric Administration (NOAA) to conduct collaborative research to advance numerical weather and climate prediction in the United States. This legislation also establishes a joint NOAA and DOE initiative to support advanced modeling on high-performance computers, with a five-year sunset.

H.R. 1715 was introduced on March 22, 2023, by Environment Subcommittee Chairman Miller (R-OH), with Representative Ross (D-NC) as the original cosponsor.

Section-by-Section

Section 1. Short Title.

Section 2. Definitions.

Section 3. Department of Energy and National Oceanic and Atmospheric Administration research and Development Coordination.

Directs the Secretary of Energy and the NOAA Administrator to carry out collaborative research and development activities in artificial intelligence and high-performance computing focused on the advancement of climate models and operational numerical weather prediction relevant to agency missions, through a memorandum of understanding or other appropriate interagency agreement. Directs the Secretary and the Administrator to, in carrying out these activities, conduct collaborative research in modeling and data analytics, explore options for performance portability of the optimized weather model codes, develop methods to accommodate large data sets of weather and climate information, and support the maintenance of and improvements to scientific computing infrastructure. Requires the Secretary and the Administrator to submit to the Committee on Science, Space, and Technology and the Committee on Commerce, Science, and Transportation and the Committee on Energy and Natural Resources of the Senate, a report detailing: coordination activities carried out under this section, collaborative research achievements, and potential opportunities to expand technical capabilities, among other areas.

Section 4. Climate and Weather Prediction on High Performance Computers Initiative

Authorizes the Administrator to, in collaboration with the Secretary, carry out an initiative, which may leverage DOE high performance computers or expertise, to run advanced models to conduct proof of concept scenarios in comparison with current issued forecasts and models. Requires that the authority under this section terminate five years after the date of enactment of this section.

Section 5. Research Security

Requires that the activities authorized under this Act shall be applied in a manner consistent with the research security provisions under subtitle D of title VI of the Research and Development, Competition, and Innovation Act (enacted as division B of the CHIPS Act of 2022 (Public Law 117–167; 42 U.S.C. 19231 et seq.)).

Contact Hillary O’Brien and Daniel Dziadon on the Majority staff or Alyse Huffman and Kristi Parrott with any questions about H.R. 1715.

H.R. 1734, “TRANQ Research Act”

H.R. 1734, the Testing, Rapid Analysis, and Narcotic Quality (TRANQ) Research Act would direct the National Institute of Standards and Technology (NIST) to take steps to enhance federal, state, and local understanding of Tranq and other novel synthetic opioids, develop new analytical capabilities for novel synthetic opioids, and establish new partnerships with front-line entities that are oftentimes the points of first contact for new opioid variants.

H.R. 1734 is jointly sponsored by Representatives Mike Collins (R-GA) and Yadira Caraveo (D-CO) and is cosponsored by Chairman Frank Lucas (R-OK), Ranking Member Zoe Lofgren (D-CA), Representatives Eric Crawford (R-AR), Valerie Foushee (D-NC), Jay Obernolte (R-CA), Jennifer McClellan (D-VA), Thomas Kean (R-NJ), Deborah Ross (D-NC), Mike Garcia (R-CA), Kevin Mullin (D-CA), Claudia Tenney (R-NY), Eric Sorensen (D-IL), Brandon Williams (R-NY), David Trone (D-MD), Randy Weber (R-TX), Brian Babin (R-TX), and Dale Strong (R-AL).

Section-by-Section

Section 1. Short Title.

Section 2. Xylazine Detection and Analysis.

Directs the National Institute of Standards and Technology (NIST) to: conduct research on novel synthetic opioids, especially those containing xylazine, to improve analysis capabilities, make narcotic analysis processes faster and more efficient, develop accessible tools and safe handling techniques for use by the broader public, support other efforts to develop near real-time drug analysis capabilities for use by others, including law enforcement, enter into collaborative partnerships to achieve strategic goals, and create research opportunities for graduate and post-graduate students to inform synthetic opioid detection and analysis efforts. This section also ensures proper security controls are in place to protect sensitive information.

Contact Jacob Smith on the Majority Staff or Alan McQuinn on the Minority Staff with any questions about H.R. 1734.

H.R. 1735, the “Mathematical and Statistical Modeling Education Act”

H.R. 1735, the Mathematical and Statistical Modeling Education Act, directs the National Science Foundation to support research to improve STEM education at the K-12 level, including innovations to incorporate mathematical and statistical modeling with a real-world context. The legislation also provides for a National Academies of Sciences, Engineering, and Medicine study to assess best practices for and barriers to successful implementation of such innovations.

H.R. 1735 is jointly sponsored by Representatives Chrissy Houlahan (D-PA) and Jim Baird (R-IN). The bill has been endorsed by the American Statistical Association (ASA), the Institute for Operations Research and the Management Sciences (INFORMS), the Consortium for Mathematics and its Applications (COMAP), the American Mathematical Association of Two-Year Colleges (AMATYC), the New Hampshire Learning Initiative (NHLI), the National Council of Teachers of Mathematics (NCTM), the Center for Innovation in Education (CIE), and the Business Software Alliance (BSA).

H.R. 1735 Section by Section

Section 1. Short Title.

Section 2. Mathematical and Statistical Modeling Education.

Directs the National Science Foundation to provide awards for research and development related to mathematical modeling education. It directs NSF to devote no less than \$10,000,000 per year from fiscal year 2024 through 2028 for these awards.

Section 3. NASEM Report on Mathematical and Statistical Modeling Education in Pre-Kindergarten through 12th Grade.

Directs the National Science Foundation to enter into an agreement with the National Academies of Sciences, Engineering, and Medicine to carry out a study to assess opportunities and challenges related to implementing innovations in mathematical modeling education. It directs NSF to provide \$1 million in fiscal year 2024 to carry out this section.

Contact Victoria Rubin on the Majority Staff or Alan McQuinn on the Minority Staff with any questions about H.R. 1735.